REMARKS

This application was examined with claims 1 through 21. Claims 7 through 21 are allowed. Claims 3 through 6 are indicated to contain allowable subject matter. Claims 1 and 2 are rejected. Applicants are amending claims 1 through 5, 7 through 12 and 14 through 19. Claims 1 through 21 remain in the application.

Applicant requests reconsideration and reexamination of the above-identified application in view of the amendments made to the specification and claims. The following remarks state Applicant's bases for making this request and are organized according to the Examiner's Action by title.

Examiner's Action - Claim Rejections 35 U.S.C. 102

The Examiner rejects claims 1 and 2 under 35 U.S.C 102(b) as being anticipated by U. S. Patent No. 5,557,474 to McCrary (the "McCrary patent") or U. S. Patent No. 5,494,452 to Hoshino et al. (the "Hoshino patent"). The Examiner refers specifically to elements 10b, 15, 18 and 20 in the McCrary patent and to elements 2 and 8 in FIG. 9 of the Hoshino patent.

The Examiner further rejects each of the claims under U. S. Patent No. 6,122,114 to Sudo et al. (the "Sudo patent") and U. S. Patent No. 5,177,641 to Kobayashi et al. (the "Kobayashi patent"). Specifically, the Examiner relies on

FIG. 8 elements 38a, 38b, 38c and 30 in the Sudo patent. The Examiner relies on FIG. 5, particularly elements 54 and 34 and elements 62 and 44 in the Kobayashi patent.

Applicants respectfully traverse these rejections.

Applicants have discussed the cited McCrary, Sudo and Kobayashi references in a prior response. The newly cited Hoshino patent discloses a lens retaining barrel that includes a cylindrical part for radially positioning a lens and an abutment for positioning the lens in the direction of the optical axis. As disclosed and particularly shown in FIG. 9, the lens barrel is molded plastic. Although the term "heat caulking" is not specifically defined in the disclosure, it appears that the heat caulking portion 8 would normally be extending parallel to the axis as a tab. That is, the lens L is inserted against the internal abutment formed by the lens barrel and then heat is applied to deform the plastic tab into and onto the face of the lens L. Heat caulking is disclosed as a substitute for adhesive material.

Claim 1 defines an optical element support means with a first portion at an intermediate position and two second integral portions adjacent opposite ends of the first portion. That is, a structure operating as an optical element support means is an integral structure. As recited in claim 3 the optical element support means includes a housing with spaced

crimps forming the second portions. In claim 4 the second portions are constituted by first and second deformed portions. In claim 5 the support means includes a pair of shells where each shell includes the first and second portions.

In claim 2 the optical device is defined so that first portion conforms to the geometry of the peripheral surface and the second portions conform to adjacent portions of the first and second lens faces.

Each of these claims defines patentable subject matter over the Hoshino patent. The structures shown in FIG. 9 and other figures in the Hoshino patent are designed to accommodate lenses at one end of a lens barrel. There is no disclosure of a lens at an intermediate position along a lens barrel. Even if the lens barrel 1 in the Hoshino patent as shown in FIG. 9 were extended to accommodate a lens in an intermediate portion of the axial extent of the lens barrel 1, the structure shown in FIG. 9 could not be applied. Claim 1 defines the optical element support means as extending along an optical device axis and positioning the lens at an intermediate position within the optical element support means. The second portions adjacent the intermediate portion engage the lens.

FIG. 2 of the McCrary patent discloses individual spacers 11, 13 and 15 having one coefficient of thermal expansion (CTE) and even spacers 12 and 14 with a different coefficient of

thermal expansion. A two-part mount with a mount 17 being threaded onto a mount 18 produces a clamping force. This is a system of discrete elements that position the lenses 10a and 10b. The only motion limitation of claims 1 and 2 that occurs in the McCrary patent occurs as a result of tightening the mount 17 onto the mount 18 along with interaction with the various spacers. The McCrary patent does not disclose a structure with a first intermediate portion and integral second portions.

Applicants respectfully submit that claims 1 and 2 define patentable structure over the Sudo patent particularly the structure disclosed in FIG. 8. First, positioning is achieved by tightening a ring 30 into a threaded cavity to clamp the lens against a portion of shoulders at 38a, 38b and 38c of a lens barrel 39. Applicants therefore respectfully submit that the structure shown in FIG. 8 of the Sudo patent is not an integral structure in which second portions that engage opposite faces of a lens are integrally formed within an intermediate portion. Further, with respect to claim 2, although a portion of the lens barrel 39 conforms to the peripheral surface of the lens 38, the clamping structures do not conform to adjacent portions of the first and second faces.

The Kobayashi patent, like the McCrary patent, includes a system of elements that positions lenses within a lens barrel.

The lens barrel has a progression of cavities of successively reduced radii from the end of the lens barrel. The lenses 12, 14 and 16 are separated by elastic rings 54 and 62. A retainer ring 52 threads onto the lens barrel. Consequently it is the system of the retainer ring 52, the elastic rings 54 and 62 and shoulders, such as shoulders 34 and 44, that position the lenses. This is not an integral structure in which an intermediate portion overlies the peripheral portion of a lens and the second integral portions overlie the lens faces.

Given the foregoing, Applicants respectfully submit that each of claims 1 and 2 defines an invention that is novel and would not have been obvious to a person of ordinary skill in the art at the time Applicants made their invention.

Examiner's Action - Minor Informalities Noted

The Examiner notes a number of informalities. Applicants have made corresponding changes in the specification. Applicants are also submitting an Amendment to the Drawings including a Replacement Sheet of drawings for FIGS. 1, 10 and 11.

On review, Applicants have found additional minor informalities. Applicants' amendments seek to correct those informalities. Nothing in these amendments constitutes the addition of new matter.

Examiner's Action - Allowable Subject Matter

Applicants appreciate the Examiner's indication that claims 7 through 21 are allowable and that claims 3 through 6, while objected to as being dependent upon a rejected based claim, contain allowable subject matter. As Applicants believe that claims 1 and 2 as amended are patentable, Applicants are deferring rewriting claims 3 through 6 in independent form. Applicants have also made amendments to other claims to address the impact of the amendments to claims 1 and 2 in the remainder of the claims.

Supplemental Information Disclosure Statement

On or about August 1, 2007 Applicants received an Office Action from the Chinese Patent Office for an application that claims priority from the application that is the subject of this response. The Office Action rejected the claims over German Patent DE 3431631. A copy of the German Patent DE3431631 and a translation of the Chinese action are included with the Supplemental Information Disclosure Statement.

The German patent discloses three variations of a structure that allows a sheath to bend without breaking lens, such as relay lenses, contained with the sheath. Specifically:

In FIG. 1 a sheath 1 has a greater inner diameter

than the outer diameter of bar lenses 2. Spacers 5 slide into the sheath 1 and engage the ends of adjacent lenses. Spacer rings 8 and 9 position each lens radially within the sleeve 1.

In FIG. 2, the spacers are configured to have an extended axial position that performs the function of the spacer bars 8 and 9. An inner portion of each spacer engages the ends of the lenses.

In FIG. 3, depressed areas 11 of the sleeve 1 are coextensive with the spacers 5. The depressed areas radially define the position of the spacer 5 and the radial position of the lens element 2 within the sleeve 1. As a result, there is a space between the sleeve that is substantially coextensive with the length of the bar lens 2.

With respect to claim 1, the German patent does not disclose any engagement between the sleeve and the lens so there is nothing corresponding to the claimed first portion. Nothing should make this obvious because it is the express purpose of the German patent to radially space the sheath from the lens. Moreover, none of the lens spacers are integral structures. Spacer 5 apparently can slide in the sleeve 1. It provides axially support, but to the extent the entire assembly shifts, it appears that the spacers 5 also shift axially.

Independent claim 7 defines the engaging portions as being plastically deformed. While the depression 11 in FIG. 3 is plastically deformed, it is separate from the spacer 5. However, the spacers can slide axially; they are not individually locked in place. Independent claims 14 and 21 should be patentable for the same reasons.

Summary

Applicants have submitted a number of amendments to the specification and are submitting a replacement for FIGS. 1, 10 and 11. Applicants believe that claims 1 and 2 as amended define an invention that is novel and would not have been obvious. Therefore Applicants respectfully request the Examiner to reconsider the rejections made to the claims and to allow claims 1 through 21.

If there are any questions, we urge the Examiner to call us collect.

Respectfully Submitted,

/George A Herbster/

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re	:	RICHARD E. FORKEY AND WILLIAM P. BARNES, JR. AND ROBERT N. ROSS AND JOSEPH N. FORKEY
Serial No.	:	10/809,198
Filed	:	March 25, 2004
FOR	:	OPTICAL DEVICE WITH LENS POSITIONING AND METHOD OF MAKING THE SAME
EXAMINER	:	Loha Ben
ART UNIT	:	2873

AMENDMENT TO THE DRAWINGS

Please amend FIGS. 1, 10 and 11 in the above-identified patent application as follows:

FIG. 1: Delete "16" and insert - 20 -
Delete "17" and the brace
FIG. 10: Delete "43" and insert -- 44 -
FIG. 11: Delete "43" and insert - 44 --

REMARKS

A copy of the amended drawings are attached. Applicants are also submitting replacement sheets of the drawings representing the originally filed drawings as amended by these amendments.

If there are any questions, we urge the Examiner to call us collect.

Respectfully Submitted,

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ANNOTATED SHEET

1/12

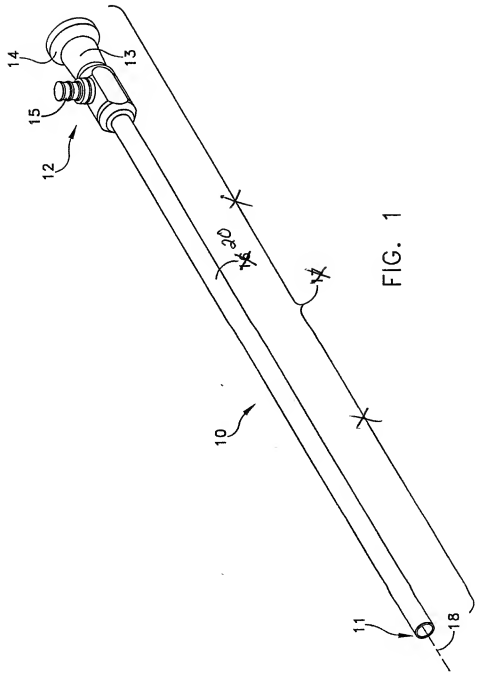
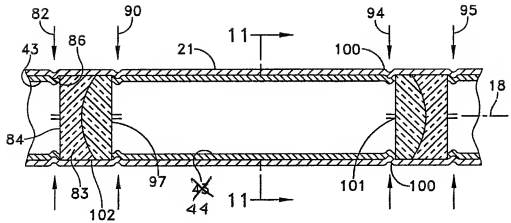


FIG. 1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11

FIG. 10

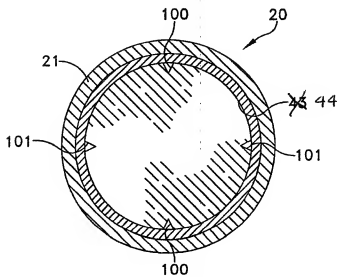
100
20
21
44
101
101
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FIG. 11